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6 February 1947

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In reply to your request for data on the RKA multicoupler, I have obtained from the Navy the following information.

Navy type 49122 B 70 ohms (18" long)
Navy type 49123 B 70 ohms (24" long)
Navy type 49124 B 70 ohms (36" long)

If you still desire to order jacks or plugs separate for some reason or another they may be obtained by using the following symbol:

Navy type 49120 This is the Jack 70 ohms.
Navy type 49121 This is the plug 70 ohms.

These are usually used with RG11U unarmored coaxial cable. The symbol for armored cable is RG12U.

During the discussions we had with the Navy it was disclosed that they do not regard multicouplers as satisfactory. In fact they feel that in the past they have been a necessary evil and plan in the immediate future to work out a method to avoid their use. Instead of a positive 10 gain they have found there is a loss of from 3 to 35 dB and one engineer said it is better to use matched receivers directly on the Rhombics. Apparently this accounts for the fact that RCA has discontinued the manufacture of multicouplers, which, from what we can gather, were superior to the RKA.

We also discussed the matter of rhombic equipment along with different types of transmission lines. The Navy said they are now convinced that the three wire rhombics are much superior to the single wire type. For the transmission lines, they are now specifying a new well armored cable which is carried up the pole to a transformer matching into the rhombic. Of course the transformer case and coaxial cable are designed to be moisture free even to the point of long time "breathing". The coaxial cable costs 70 cents a foot and at present will be difficult to obtain as the Navy has large orders from the sole manufacturers of this cable and

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the present rate of production of this cable is far below the demand.

In view of all these disclosures, Mr. Quinn at Silver Hill is withholding his decision on the type of rhombics, transmission lines, and coupling equipment he will use at the new location here in the West, and we feel you, likewise, might prefer to await full data and specification on these items before completing your plans. We will send on to you all such data as fast as the Navy makes it available to us and in the meantime we will appreciate any reactions you have to the contents of this letter.

Sincerely yours,

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[REDACTED]
Administrative Officer

OO/PB
JAP/obs